

## A M E N D M E N T S

In the Claims:

1. (Currently amended) A process for the production of a biologically active protein, comprising:  
expressing said protein as a heterologous protein in an expression system comprising a  
cultivated organism having one or more cells, wherein the protein is expressed as a protein  
precursor in inclusion bodies having an aqueous solubility in the cells of the organism;

regulating one or more cultivation parameters selected from the group consisting of  
temperature of cultivation, composition of cultivation medium, induction mode, principle of  
performing the fermentation, addition of an agent capable of causing stress, and co-expression of  
auxiliary proteins, wherein regulating the one or more parameters affects the aqueous solubility of  
the inclusion bodies in the cells;

isolating the inclusion bodies from the organism;

optionally, washing the inclusion bodies;

solubilizing the inclusion bodies under non-denaturing conditions; and

purifying the protein, wherein the purified protein is biologically active.

~~the expression of said protein as a heterologous protein, wherein at least one of the parameters or~~  
~~conditions, which enable the regulation of the composition of inclusion bodies, is adjusted in such a~~  
~~way that the amount (proportion) of the correctly folded precursor of the heterologous protein after~~  
~~expression is increased in said inclusion bodies.~~

2. (Withdrawn)

3. (Currently Amended) ~~The~~A process for the production of a protein according to claim 1, wherein  
the heterologous protein is selected from the group consisting of G-CSF, GM-CSF, M-CSF, EGF,  
HAS, DNase, FGF, TNF-alpha, TNF-beta, interferons, and interleukins.

4. (Currently Amended) ~~The~~A process for the production of a protein according to claim 1, wherein  
the selected heterologous protein is G-CSF.

5. (Currently Amended) ~~The~~A process for the production of a proteins according to claim 1, wherein the cultivated~~expression is performed in an~~ organism is selected from the group consisting of bacteria and yeasts.

6. (Currently Amended) ~~The~~A process for the production of a protein according to claim 5, wherein the cultivated organism is~~expression is performed in the~~ bacterium *E. coli*.

7. (Currently Amended) ~~The~~A process for the production of a protein according to claim 1, wherein the heterologous protein is accumulated in the inclusion bodies to a proportion of at least about 10%, relative to the total protein mass of ~~at the~~host cell of the organism used in the expression system.

8. (Canceled).

9. (Canceled).

10. (Currently Amended) ~~The~~A process according to claim ~~9~~1, wherein the temperature of cultivation ~~is between~~ranges from about 20° C. ~~to~~and about 30° C.

11. (Canceled).

12. (Currently Amended) ~~The~~A process according to claim ~~9~~1, wherein ~~the adjustment of~~regulating the induction mode comprises selecting ~~the an~~ inducer from the group consisting of IPTG, lactose, and NaCl.

13. (Currently Amended) ~~The~~A process according to claim 12, wherein the selected inducer is IPTG.

14. (Currently Amended) ~~The~~A process according to claim 13, wherein the concentration of IPTG ~~is in the ranges~~ from about 0.1 mM to about 1 mM.

15. (Currently Amended) ~~The~~A process according to claim 14, wherein the concentration of IPTG is about 0.4 mM.
16. (Currently Amended) ~~The~~A process according to claim ~~9~~12, wherein the ~~adjustment~~regulation of the induction mode further comprises adding the inducer at the beginning of the fermentation.
17. (Currently Amended) ~~The~~A process according to claim ~~9~~1, wherein the principle of performing the ~~fermentation~~biosynthesis is selected from the group consisting of performing of fermentation in a batch mode, performing of fermentation in a fed batch mode and performing of fermentation in one or more shake flasks.
18. (Canceled)
19. (Currently Amended) ~~The~~A process according to claim ~~9~~1, wherein the composition of the cultivation medium is selected from the group consisting of GYST, GYSP, LYSP, LYST, LBON and GYSPON.
20. (Currently Amended) ~~The~~A process according to claim 19, wherein the selected medium is GYST; or GYSP.
21. (Currently Amended) ~~The~~A process according to claim ~~9~~1, wherein the agent ~~additive which is~~ capable of causing stress is selected from the group consisting of ethanol and propanol.
22. (Canceled).
23. (Currently Amended) ~~The~~A process according to claim ~~22~~1, wherein the step of washing is performed by using comprises contacting the inclusion bodies with a solution which is selected

from the group consisting of Tris/HCl buffer, phosphate buffer, acetate buffer, citrate buffer and water.

24. (Currently Amended) ~~The~~A process according to claim 23, wherein the concentration of the selected buffer is ~~is in the ranges~~ from about 1 mM to about 10 mM.

25. (Currently Amended) ~~The~~A process according to claim 23, wherein the selected solution is water.

26. (Currently Amended) ~~The~~A process for production of a protein according to claim 1, ~~which further comprises solubilisation of the inclusion bodies~~ wherein the step of solubilizing the inclusion bodies further comprises contacting the inclusion bodies with a non-denaturing solution selected from the group consisting of: urea ranging in concentration from about 1M to about 2M, N-lauroyl sarcosine ranging in concentration from about 0.05% to about 0.25% mass per volume, betain, sarcosine, carbamoyl sarcosine, taurine, DMSO, non-detergent sulfobetains, and a buffer in a high, solubilising concentration, said buffer being selected from the group consisting of HEPES, HEPPS, MES, and ACES.

27. (Withdrawn)

28. (Canceled)

29-31. (Withdrawn)

32-37. (Canceled)